

Case 2990

Disparalona Fryer, 1968 (Crustacea, Branchiopoda): proposed conservation

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Abstract. The purpose of this application is the conservation of the freshwater branchiopod generic name *Disparalona* Fryer, 1968 (Anomopoda, CHYDORIDAE) by the suppression of *Phrixura* Müller, 1867. The latter genus and its type species *P. rectirostris* Müller, 1867 were based on a single deformed individual now recognised as belonging to *Lynceus rostratus* Koch, 1841, the type species of *Disparalona*. The name *Phrixura* has been ignored since its original publication but it has been suggested recently that it should displace *Disparalona*, a name in wide use.

Keywords. Nomenclature; taxonomy; Branchiopoda; CHYDORIDAE; *Disparalona*; *Disparalona rostrata*; *Phrixura*.

1. The widespread freshwater branchiopod (Anomopoda, family CHYDORIDAE) known in recent literature as *Disparalona rostrata* (Koch, 1841) (species 12 (3 figs.), Heft 36) was originally placed in the genus *Lynceus* P.L.S. Müller, 1776. Lillejeborg (1853, p. 78, pl. 6, fig. 8; 1900, p. 482, pl. 69, figs. 7–21) used the name *L. rostratus*, but Sars (1862, p. 301) placed the species in his new genus *Alonella*. P.E. Müller (1867, p. 182) allocated it to *Alona* Baird, 1843 (the latter date was cited correctly by Smirnov (1971) and Negrea (1983) but was wrongly given as 1850 by Flössner (1972) and Frey (1989)).

2. In the 19th century the species was included in *Lynceus*, *Alonella* or *Alona*, but in 1908 Stingelin transferred it to *Rhynchotalona* Norman, 1903. Until 1968 authors accepted either this placement or continued to cite *rostrata* in *Alonella* (see synonymous lists in Smirnov, 1971, Flössner, 1972 and Michael & Frey, 1984).

3. One finding in a comparative survey (Fryer, 1968) of the functional morphology of representatives of several chydorid genera was that the species in question has distinctive morphological attributes associated with an equally distinctive feeding mechanism: in particular it has an enormously developed sweeping seta on the gnathobase of the third trunk limb, which in life is in almost incessant motion sweeping along the food groove. As this set the species apart from other genera I (Fryer, 1968, p. 286) proposed the new genus *Disparalona* to accommodate it. Other species have since been transferred to or erected in *Disparalona* (see Fryer, 1971; Smirnov, 1971; Michael & Frey, 1984).

4. At the same time as he placed Koch's species *rostrata* in *Alona*, Müller (1867, p. 184) described a new genus and species *Phrixura rectirostris* on the basis of a single specimen with a much distorted postabdomen, in which the claws were lacking and the spines arose in a manner not found in any normal chydorid postabdomen. Müller was not aware that he was dealing with an abnormal individual. His account included a single illustration (pl. 4, fig. 15) – of the deformed postabdomen only – and his

taxon long remained an enigma. As Frey (1989, p. 124) accurately noted, Müller's illustration 'doesn't give any hint of the taxon involved, nor really does the verbal description either. Hence, scientists have not been able to do anything with it'. The name *Phrixura* was never used for 122 years, until Frey (1989) reintroduced it following his discovery some years earlier (see para. 6 below) of Müller's slide in the Zoologisk Museum of the University of Copenhagen. The specimen proved to be an aberrant epiphrial female of *Disparalona rostrata*. Unknown to Frey, Müller had made two illustrations of this individual, only one of which was published. Røen (1994) subsequently discovered Müller's original illustrations in Copenhagen and published them (pl. 39, figs. 1 and 2); the additional figure of the whole animal gives a tolerably good indication of its real identity. Müller had also made two figures of *Alona rostrata* (Koch) but published only that of the postabdomen; both were published by Røen (1994, pl. 39, figs. 3–4).

5. On the ground that the name *Disparalona* Fryer, 1968 is predated by *Phrixura* Müller, 1867, Frey (1989, p. 105) stated that Koch's species *Lynceus rostratus* 'now must go by the name *Phrixura rostrata*'. There are several reasons for rejecting this suggestion, as mentioned in the following paragraphs.

6. The binomen *Phrixura rectirostris* was entirely based on deformities which do not exist in normal individuals and are not characters of any taxon. As already stated, in the same paper as that in which he erected the generic name *Phrixura*, Müller placed *Lynceus rostratus* Koch in *Alona*, as *A. rostrata*. Had he realised that he was dealing merely with a teratological specimen of *A. rostrata* obviously he would not have proposed the nominal species *Phrixura rectirostris*. The characters by which *Phrixura* was defined have no significance whatsoever and are entirely misleading. The taxon remained unrecognised, and from Müller's publication was unrecognisable, for more than a century and would have continued to be so had Frey not found the original specimen. Ironically, Michael & Frey (1984, p. 82) list *Phrixura rectirostris* as a synonym of *Disparalona rostrata* on the basis of Frey's then unpublished discovery of the true identity of the former, and explicitly state that *P. rectirostris* 'is an abnormal specimen of *D. rostrata*'. Frey (1987) continued to use the name *Disparalona*, and even in 1989 (at the same time as reintroducing *Phrixura*) he reported (p. 124) that Müller's ancient specimen 'is unequivocally *Disparalona rostrata*'!

7. In contrast to *Phrixura*, the name *Disparalona* has been used in numerous publications, including monographs on the CHYDORIDAE of the world (Smirnov, 1971, p. 272 [English translation 1974]), and more recently of Germany (Flössner, 1972; p. 336), China (Chiang & Du, 1979, p. 236), Kazakhstan (Ibrasheva & Smirnova, 1983, p. 79), Malaysia (Idris, 1983, p. 56) and Romania (Negrea, 1983, p. 258). Some of these have very good illustrations of *Disparalona* species. It was used by Whiteside (1970) in a comprehensive survey of the CHYDORIDAE of Denmark, and by Frey in the new Prologue (p. xix) to a 1982 facsimile reprint of Lilljeborg's monograph of 1900. As noted above, *Disparalona* was the name used by Michael & Frey (1984), whose excellent line drawings (pls. 1–3) and SEM photographs (pls. 4–7) are the most detailed and comprehensive available. It would be destabilising and in direct contravention of Article 23b of the Code to displace the established name *Disparalona* by *Phrixura*, a name based entirely on a teratological character, ignored for over a century, and never used in any taxonomic publication until that of Alonso (1996), which appeared while this application was in press.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to suppress the name *Phrixura* Müller, 1867 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to place on the Official List of Generic Names in Zoology the name *Disparalona* Fryer, 1968 (gender: feminine), type species by original designation *Lynceus rostratus* Koch, 1841;
- (3) to place on the Official List of Specific Names in Zoology the name *rostratus* Koch, 1841, as published in the binomen *Lynceus rostratus* (specific name of the type species of *Disparalona* Fryer, 1968);
- (4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Phrixura* Müller, 1867, as suppressed in (1) above.

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